



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,176	10/28/2003	Tomonari Horikiri	1232-5185	6564
27123	7590	12/29/2008	EXAMINER	
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			MOON, SEOKYUN	
			ART UNIT	PAPER NUMBER
			2629	
			NOTIFICATION DATE	DELIVERY MODE
			12/29/2008	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOPatentCommunications@Morganfinnegan.com  
Shopkins@Morganfinnegan.com  
jmedina@Morganfinnegan.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/696,176	<b>Applicant(s)</b> HORI KIRI, TOMONARI	
	<b>Examiner</b> SEOKYUN MOON	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 5,8-10 and 13-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5,8-10, and 13-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

1. The Applicant's arguments with respect to newly amended claim 6 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claims 6, 8-10, and 13-16** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As to **claim 6**, the claim [last paragraph] discloses, “*applying said plural kinds of stimuli individually by using the electrode to predetermined different areas of said substrate, thereby coloring said dyes in one of the optical modulation members deposited on said different areas to different colors*”.

From the amendments to the claim and the arguments presented in the applicant's remarks, it appears that the Applicant tried to define supplying AC voltage to the electrode as one of the plural kinds of stimuli, in the claim. However, Examiner respectfully submits that

Art Unit: 2629

supplying AC voltage to the electrode alone cannot color the dyes in the optical modulation members. According to the specification of the instant Application, coloring the dyes is not accomplished by applying the AC voltage to the electrode, but is accomplished by applying lights/rays to the optical modulation member. Since the claim discloses applying the plural kinds of stimuli **individually** to predetermined different areas of the substrate to color the dyes in the optical modulation members to different colors, the claim limitation is not consistent with the disclosure in the specification of the instant Application. Furthermore, claim 10 which depends on claim 6 defines the plural kinds of stimuli as being selected from the group consisting of thermal energy, light energy, electron ray,  $\gamma$  ray, and X ray. Accordingly, the amended claim limitation is not consistent with the subject matter of claim 10 which depends on claim 6.

Appropriate correction/explanation is required.

As to **claims 8-10** and **13-16**, the claims are rejected as being dependent upon a base claim rejected under 35 U.S.C. 112, first paragraph.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 6, 8-10, and 13-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Katase (US 6,525,865) in view of Duthaler (US 2004/0155857).

Art Unit: 2629

As to **claim 6**, Katase teaches a process for producing an electrophoretic display [abstract lines 1-2] having electrophoretic particles (“*electrophoretic particles 3*”) [fig. 16] and a dispersion medium (“*dispersion medium 2*”) [fig. 16] as optical modulation members, comprising the steps of:

providing one of the optical modulation members with a plural kinds of dye [col. 19 lines 39-42];

depositing the optical modulation members on a substrate [fig. 16] on which an electrode (“*pixel electrode 104*”) [fig. 16] was formed in a pattern.

Katase further teaches coloring the dyes included in the optical modulation members [col. 19 lines 39-42].

Katase does not expressly teach a specific step of coloring the dyes, i.e. applying a specific stimulus selected from a plural kinds of stimuli to the dyes to change each of the colors of the dyes to a specific color.

However, Duthaler [par. (0107), emphasis on lines 23-31] teaches a concept of coloring a plural kinds of dyes, each of which is capable to be colored to a specified color by application of a specific stimulus selected from a plural kinds of stimuli and applying the plural kinds of stimuli individually to predetermined different areas and thereby coloring the dyes to different colors [par. (0107), emphasis on lines 31-39].

It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the concept of Duthaler, i.e. coloring dyes by applying a plural kinds of stimuli individually to predetermined different areas of a substrate of a display, to the display of Katase such that each of the dyes in one of the optical modulation members deposited on the different

Art Unit: 2629

areas is colored to different colors, in order to allow the colors of the dyes of the display to be changed remotely rather than manufacturing the dyes with predetermined colors.

Katase as modified by Duthaler does not expressly teach the electrode being used when the plural kinds of stimuli is applied to the predetermined different areas of the substrate.

However, Examiner takes Official Notice that it is well known in the art to apply a shake pulse which is an AC pulse to the electrodes of an electrophoretic display to distribute the electrophoretic particles included in the display, uniformly.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the process of Katase as modified by Duthaler to apply a shake pulse which is an AC pulse to the electrodes of the display of Katase as modified by Duthaler, in order to distribute the electrophoretic particles uniformly, and thus to create an uniform color for each of the predetermined different areas including the electrophoretic particles.

As to **claim 8**, Katase [fig. 14] teaches a step of spatially sealing ("*sealer 202*") hermetically the electrophoretic particles ("*electrophoretic particle 3*") and the dispersion medium ("*dispersion medium 2*").

As to **claim 9**, Katase as modified by Duthaler teaches that the step of applying the plural kinds of stimuli is performed after the hermetically sealing step [Duthaler: par. (107), emphasis on lines 31-39, note that in the coloring method of Duthaler, the coloring is performed after the capsules containing the dyes are incorporated into the display. Thus, Duthaler teaches an idea of performing the coloring step after the object containing the dyes is incorporated into the display].

Art Unit: 2629

As to **claim 10**, Katase as modified by Duthaler teaches that the stimuli are selected from the group consisting of thermal energy, light energy, electron ray, y ray, and X ray [Duthaler: par. (107) line 31].

As to **claim 13**, Katase as modified by Duthaler teaches that the stimuli (Duthaler: "*different infra-red wave-lengths*") are applied in a state that the electrophoretic particles and the dispersion medium are encapsulated in a microcapsule [Duthaler: par. (107), emphasis on lines 31-32].

As to **claim 14**, Katase as modified by Duthaler teaches the dye (Katase: the dye included in the medium) [Katase: col. 19 lines 39-42] being encapsulated in a microcapsule (Katase: "*cell having dimension of microns in length*") [Katase: col. 9 lines 50-52].

As to **claim 15**, Katase as modified by Duthaler teaches that the dye are a nearinfrared absorption colorant ("*infra-red-wave-lengths*") [Duthaler: par. (107), emphasis on line 31].

As to **claim 16**, Katase as modified by Duthaler teaches that the dye are a mixture of photosensitive agents sensitive to blue, green, and red light [Duthaler: par. (107), emphasis on lines 23-27].

6. As to **claim 6**, Katase teaches a process for producing an electrophoretic display [abstract lines 1-2] having electrophoretic particles ("*electrophoretic particles 3*") [fig. 16] and a dispersion medium ("*dispersion medium 2*") [fig. 16] as optical modulation members, comprising the steps of:

providing one of the optical modulation members with a plural kinds of dye [col. 19 lines 39-42];

Art Unit: 2629

depositing the optical modulation members on a substrate [fig. 16] on which an electrode (“*pixel electrode 104*”) [fig. 16] was formed in a pattern.

Katase further teaches coloring the dyes included in the optical modulation members [col. 19 lines 39-42].

Katase does not expressly teach a specific step of coloring the dyes, i.e. applying a specific stimulus selected from a plural kinds of stimuli to the dyes to change each of the colors of the dyes to a specific color.

However, Duthaler [par. (0107), emphasis on lines 23-31] teaches a concept of coloring a plural kinds of dyes, each of which is capable to be colored to a specified color by application of a specific stimulus selected from a plural kinds of stimuli and applying the plural kinds of stimuli individually to predetermined different areas and thereby coloring the dyes to different colors [par. (0107), emphasis on lines 31-39].

It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the concept of Duthaler, i.e. coloring dyes by applying a plural kinds of stimuli individually to predetermined different areas of a substrate of a display, to the display of Katase such that each of the dyes in one of the optical modulation members deposited on the different areas is colored to different colors, in order to allow the colors of the dyes of the display to be changed remotely rather than manufacturing the dyes with predetermined colors.

Katase as modified by Duthaler does not expressly teach the electrode being used when the plural kinds of stimuli is applied to the predetermined different areas of the substrate.

However, since the Applicant has failed to disclose that using the electrode when the plural kinds of stimuli is applied to the areas of the substrate provides an advantage, is used for a



Art Unit: 2629

particular purpose, or solves a state problem, it would be an obvious matter of design choice to use the electrode when the plural kinds of stimuli is applied to the areas of the substrate (note that page 40 line 9 through page 41 line 4 of the specification of the instant Application only discloses advantage of heating a section of the display).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the process of Katase as modified by Duthaler to use the electrode or not to use the electrode when the plural kinds of stimuli is applied to the areas of the substrate since the display would perform equally well at providing colors to the display users regardless of whether the electrode is used or not.

As to **claim 8**, Katase [fig. 14] teaches a step of spatially sealing ("*sealer 202*") hermetically the electrophoretic particles ("*electrophoretic particle 3*") and the dispersion medium ("*dispersion medium 2*").

As to **claim 9**, Katase as modified by Duthaler teaches that the step of applying the plural kinds of stimuli is performed after the hermetically sealing step [Duthaler: par. (107), emphasis on lines 31-39, note that in the coloring method of Duthaler, the coloring is performed after the capsules containing the dyes are incorporated into the display. Thus, Duthaler teaches an idea of performing the coloring step after the object containing the dyes is incorporated into the display].

As to **claim 10**, Katase as modified by Duthaler teaches that the stimuli are selected from the group consisting of thermal energy, light energy, electron ray, y ray, and X ray [Duthaler: par. (107) line 31].

As to **claim 13**, Katase as modified by Duthaler teaches that the stimuli (Duthaler: "*different infra-red wave-lengths*") are applied in a state that the electrophoretic particles and the

Art Unit: 2629

dispersion medium are encapsulated in a microcapsule [Duthaler: par. (107), emphasis on lines 31-32].

As to **claim 14**, Katase as modified by Duthaler teaches the dye (Katase: the dye included in the medium) [Katase: col. 19 lines 39-42] being encapsulated in a microcapsule (Katase: "*cell having dimension of microns in length*") [Katase: col. 9 lines 50-52].

As to **claim 15**, Katase as modified by Duthaler teaches that the dye are a nearinfrared absorption colorant ("*infra-red-wave-lengths*") [Duthaler: par. (107), emphasis on line 31].

As to **claim 16**, Katase as modified by Duthaler teaches that the dye are a mixture of photosensitive agents sensitive to blue, green, and red light [Duthaler: par. (107), emphasis on lines 23-27].

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sato (US 4,041,481) teaches a concept of applying AC pulses to the electrodes of an electrophoretic display to arrange the electrophoretic particles of the display, uniformly.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 2629

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEOKYUN MOON whose telephone number is (571)272-5552. The examiner can normally be reached on Mon - Fri (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2629

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

December 9, 2008

/S. M./

Examiner, Art Unit 2629

/Sumati Lefkowitz/

Supervisory Patent Examiner, Art Unit 2629